Emily Taylor Casleton

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Education

Ph.D., Statistics **December, 2014**
Iowa State University
Dissertation: A Local Structure Graph Model for Network Analysis
Advisors: Mark Kaiser and Daniel Nordman

M.S., Statistics **August, 2006**
West Virginia University
Problem Report: Spike Analysis, Stationary, and the Hurst Exponent

B.A., Mathematics and Political Science **May, 2003**
Washington & Jefferson College

Research Experience

Staff Scientist **August, 2015–present**
Statistical Sciences Group
Los Alamos National Laboratory, Los Alamos, NM

Postdoctoral Researcher **November, 2014–August, 2015**
Statistical Sciences Group
Los Alamos National Laboratory, Los Alamos, NM

Agriculture Experiment Station Consultant **January–May, 2014**
Iowa State University
Department of Statistics, Ames, IA

Graduate Student Intern **Summer visits 2012, 2013**
Statistical Sciences Group
Los Alamos National Laboratory, Los Alamos, NM

Research Assistant **August, 2011–December, 2013**
Iowa State University
Department of Statistics, Ames, IA
Funded through Sandia National Laboratory

Intern Statistician **May, 2005–May, 2008**
Computational Sciences Division
National Energy Technology Laboratory, Morgantown, WV

Teaching Experience

Instructor **Fall, 2009–Spring, 2011**
Iowa State University, Ames, IA
Department of Statistics

Adjunct Faculty **Spring, 2008–Summer, 2009**
Washington & Jefferson College, Washington, PA
Mathematics Department

Lecturer **Fall, 2006–Spring, 2007**
West Virginia University, Morgantown, WV
Department of Statistics

Graduate Teaching Assistant **Fall, 2004–Spring, 2006**
West Virginia University, Morgantown, WV
Department of Statistics

Scholarship

Refereed Articles in Journals and Conference Proceedings

6. **Casleton, E.**, D. Osthus, K. Van Buren. Imputation for Multi-Source Data with Comparison and Assessment Techniques. *Applied Stochastic Models in Business and Industry*, submitted.

5. **Casleton, E.**, M. Kaiser, D. Nordman. (2016) A Local Structure Model for Network Analysis. *Statistics and Its Interface*, accepted.

4. **Casleton, E.**, A. Beyler, U. Genschel, A. Wilson. (2014) A Pilot Study Teaching Metrology in an Introductory Statistics Course. *Journal of Statistics Education*, 22:3 http://www.amstat.org/publications/jse/v22n3/casleton.pdf.

3. Vander Wiel, S., R. Bent, **E. Casleton**, E. Lawrence. (2014) Identification of Topology Changes in Power Grids using Phasor Measurements. *Applied Stochastic Models in Business and Industry*, 30.6: 740-752.

2. Breault, R., **E. Casleton**, C. Guenther. (2012) Chaotic and Statistical Tests on Fiber Optic Dynamic Data Taken from the Riser Section of a Circulating Fluidized Bed. *Powder Technology*, 220: 151-163.

1. Seachman, S., P. Yue, **E. Taylor**, L. Shadle. Solids Fractions and Flow Characteristics in a CFB as Measured with a Fiber Optic Probe. *Proceedings of American Institute of Chemical Engineers (AIChE) 2005 Annual Meeting*.

Invited Presentations

8. **Casleton, E.**, J. Wendelberger, J. Woodring. Storage Issues and Assessment Arising from Large-Scale Simulations. *Conference of the American Statistical Association (JSM)*, Chicago, IL, August 4, 2016.

7. Ticknor, L., **E. Casleton**. Statistical Approaches for Characterization and Analysis of Large Heterogeneous Data. *Quality & Productivity Research Conference (QPRC)*, Tempe, AZ, June 14, 2016.

6. **Casleton, E.** Imputation Methods for Multi-Source Data. *Spring Research Conference (SRC)*, Chicago, IL, May 26, 2016.

5. **Casleton, E.** Methods of Imputation for Multi-Source Data. *Conference on Data Analysis (CoDA)*, Santa Fe, NM, March 3, 2016.

4. **Casleton, E.**, M. Kaiser, D. Nordman. Local Structure Graph Models with Higher-Order Dependence. *Graybill Conference*, Fort Collins, CO, June 16, 2015.

3. **Casleton, E.** The Local Structure Graph Model. *University of New Mexico*, Albuquerque, NM; *University of Alaska*, Fairbanks, AK; *West Virginia University*, Morgantown, WV, March 4, 2014; February 27, 2014; February 3, 2014.

2. **Casleton, E.**, M.S. Kaiser, D.J. Nordman. An Introduction to the Local Structure Graph Model. *Conference of the American Statistical Association (JSM)*, Montreal, QC, Canada, August 8, 2013

1. Vander Wiel, S., R. Bent, E. Lawrence, **E. Casleton**. Uncertainty Quantification for Networks with Power Distribution Applications. *Quality & Productivity Research Conference (QPRC)*, Niskayuna, NY, June 6, 2013.

Presentations and Seminars

6. **Casleton, E.** Evaluation Metrics for Large-Scale Computing: What is "good"? *Talking to Ourselves*, Statistical Sciences Group, Los Alamos National Lab, Los Alamos, NM, May 27, 2015.

5. **Casleton, E.**, U. Genschel. A Pilot Study Teaching Metrology in an Introductory Statistics Course. *Journal of Statistics Education Webinar Series*, April 21, 2015
https://www.causeweb.org/cause/webinar/jse/2015-04/.

4. **Casleton, E.**, S. Vander Wiel, E. Lawrence. Statistical Analysis of State Estimation for Electric Power Grids. *Talking to Ourselves*, Statistical Sciences Group, Los Alamos National Lab, Los Alamos, NM, August 9, 2012.

3. **Casleton, E.**, A. Borgen, U. Genschel, A. Wilson. An Argument for Teaching Metrology in Introductory Statistics Classes. *Conference of the American Statistical Association (JSM)*, Miami Beach, FL, August 1, 2011.

2. Borgen, A.,**E. Casleton**, U. Genschel, A. Wilson. Strengthening Quantitative Literacy Using Case-Based Learning. *Seminar for Problem-Solving Faculty Learning Community*, Iowa State University, Ames, IA, December 6, 2010.

1. **Taylor, E.**, C. Guenther, R. Breault. Characterization of Flow Conditions and Scales through Dynamical Tests of the Riser of a Circulating Fluidized Bed. *American Institute of Chemical Engineers (AIChE) 2007 Annual Meeting*, Salt Lake City, UT, November 5, 2007.

Poster Presentations

5. **Casleton, E.**, D. Nordman, M. Kaiser. A Centered Parameterization for the Local Structure Graph Model with Higher-Order Dependence. *Conference on Data Analysis (CoDA)*, Santa Fe, NM, March 5, 2014.

4. **Casleton, E.**, M. Kaiser, D. Nordman. Tornadoes in Arkansas: A Network Analysis Approach. *Iowa Chapter meeting of the American Statistical Association*, Ames, IA, November 1, 2013.

3. **Casleton, E.**, M. Kaiser, D. Nordman. Random Graphs with Latent Spatial Structure. *Conference of the American Statistical Association (JSM)*, San Diego, CA, July 31, 2012.

2. **Casleton, E.**, M. Kaiser, D. Nordman. Random Graphs with Latent Spatial Structure. *Conference on Data Analysis (CoDA)*, Santa Fe, NM, February 29, 2012.

1. **Casleton, E.**, A. Borgen, U. Genschel, A. Wilson. An Argument for Teaching Metrology in Introductory Statistics Classes. *United States Conference on Teaching Statistics (USCOTS)*, Raleigh, NC, May 20, 2011.

Technical Reports

3. **Casleton, E.**, M. Skurikhin, K. Van Buren, J. Wendelberger. (2016) Imputation and Clustering for the DARHT Multi-Intelligence Grand Challenge. LA-UR-16-20772.

2. Berry, J., V. Leung, C. Phillips, A. Pinar, D. Robinson, T. Berger-Wolf, S. Bhowmick, **E. Casleton**, M.Kaiser, D. Nordman, A. Wilson. (2014) Statistically Significant Relational Data Mining: LDRD Report. SAND2014-1105.

1. **Taylor E.**, C. Guenther, R.W. Breault. (2008) Dynamical Tests on Fiber Optic Data taken from the Riser Section of a Circulating Fluidized Bed. DOE/NETL-IR-2008-045.

Manuscripts in Preparation

2. **Casleton, E.**, E. Lawrence, S. Vander Wiel, R. Bent. Bayesian Analysis of State Variables using an Emulator.

1. **Casleton, E.**, M. Kaiser, D. Nordman. Local Structure Graph Models with Higher-Order Dependence.

Honors, Awards, & Fellowships

Preparing Future Faculty Associate, Iowa State University, May 2013

Los Alamos Statistical Sciences Conference (LASSC) grant, February 2012, 2014

Wakonse Fellow, named by Center of Excellence in Learning and Teaching, Iowa State University, May 2011

Graduate Teaching Excellence Award, Iowa State University, May 2011

Miller Faculty Fellowship, Iowa State University, Summer 2010

Outstanding Teaching Assistant Award, West Virginia University, 2006

Clyde Shephard Atchison Prize in mathematics, Washington & Jefferson College, 2003

Gamma Sigma Alpha, National Honor Society, Washington & Jefferson College, 2003

Pi Sigma Alpha, Washington & Jefferson College, 2003

Students Mentored

Chelsea Challacombe**, Summer 2016
Soumya Dutta* (joint with Jon Woodring), Summer 2016
Mikhail Skurikhin*, Summer 2015

* graduate student, ** undergraduate student

Service and Memberships

Membership

American Statistical Association, 2006–present
Institute of Mathematical Statistics, 2009–present
International Society for Bayesian Analysis, 2012–present

Associate Editor

Statistical Analysis and Data Mining

Referee

Journal of Statistics Education
Statistical Analysis and Data Mining
Journal of Quantitative Analysis of Sports

Community

CCS-6 Summer Student Activities Coordinator, 2015
Statistics in the Community (StatCom): Executive Committee, 2011–2014
Iowa STAT-ers: President, 2011–2012, Vice President, 2010–2011

Last updated: September 2, 2016